UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL FINANCIAL ADVISORY BOARD

Conservation Savings Increment Loans:
A Proposal Concerning the State Revolving Funds

With their large utilization of electric motors, electric power and various types of petroleum products, drinking water and wastewater treatment systems are prime candidates for energy conservation. Such systems consume approximately 35 percent of the energy used by the public sector at the municipal level. As the Environmental Protection Agency's own "Gap Analysis" report has demonstrated, the country faces a significant issue in the maintenance and retrofitting of older plants. A significant element of this work will involve activities that can result in energy conservation in plant and system operations.

With some minor modifications in the eligible activities associated with the Clean Water and Safe Drinking Water State Revolving Funds (SRF), these programs could become the prime motivators for energy conservation activities at drinking water and wastewater systems across the country. It may even be possible, using the Administrator's discretionary powers under the Clean Water and Safe Drinking Water Acts, to begin almost immediate implementation of such a major energy conservation program.

Both SRF programs make loans available to drinking water or wastewater systems at interest rates as low as zero percent. Under the terms of the drinking water SRF low interest loans can be further enhanced by loan principle forgiveness for hardship communities. If the SRF programs can be authorized to provide funds to local systems to undertake the studies necessary to identify energy conservation opportunities in the operation of their systems, then the SRF program can make low interest rate loans to those same systems to implement the identified energy conservation activities using the cash flow savings garnered at least in part if not in whole from the energy conservation activities to pay back the loan.

Using the already functioning Drinking Water and Clean Water State Revolving Fund programs as the operational base, the Conservation Savings Increment Loan Program (CSI Loans) would operate in two parts. The first part would establish a system to pay for the process that identifies potential energy conservation actions. The second part would finance the cost of paying for purchase and installation of the energy saving equipment. A sub-set of part two of the program would be to encourage states to undertake these energy conservation activities in the same "pooled" manner they have used for traditional SRF loans to attempt to

create opportunities for further cost savings through bulk purchase of energy conservation equipment for multiple wastewater and drinking water systems within a state.

A potential third part of the program would allow SRFs to fund co-generation projects where by-products of water or sewer system operation might be used to generate electricity or provide heat. SRF programs could also support financing land purchases for the application of alternative treatment technologies. Land treatment alternatives and secondary polishing through streams and man-made impoundments are examples of low energy alternatives in which the cost of land might make them otherwise noncompetitive with more energy intensive technologies.

Energy management is a well established professional field across the country. Energy management firms have the expertise to examine the current energy use profile of a water or sewer system and identify not only where savings might be achieved but also determine the pay-back period on the investment cost to retrofit existing systems to obtain cost savings through more efficient use of energy. State SRF programs could allow local systems to apply for low interest or zero interest rate loans to hire an energy management company, or the state program could undertake a program where it would negotiate a contract for services from a single vendor and make that service available to all its eligible borrowers. For this portion of the program, it may make sense to remove the requirement that an individual system be identified on the annual Intended Use Plan (IUP) and simply identify energy management studies as an activity for the IUP and allocate funds to it.

EPA's own *Energy Star* program would be another important source of information and technical assistance on energy saving options. Additionally, many wastewater and drinking water systems have in recent years conducted energy audits as a cost cutting measure. They would serve as a useful blueprint to help identify worthwhile energy conservation projects.

Subsequent to the identification of energy saving actions a borrower might take as well as the time period needed to achieve savings equal to the cost of the activity, the SRF program would structure a longer term loan to amortize the cost of the activity over its useful life and pay back period. The long term loan as well could roll in the short term loan that had been used to pay for the energy management study. These longer term loans would be structured to use some percentage of the estimated cost savings as the cash flow available to pay off the loan. Borrowers should have the ability to keep at least some part of the savings for activities other than debt service on the CSI loan as another incentive to participate in the program. In those cases where energy savings and useful life may not coincide or a system may have better use for some of the saved money, loan principle forgiveness should be an option for a State's SRF programs to provide.

Another element of the energy management study would be the identification of any system waste product that could be used to generate energy or heat and ways in which such a waste product might be used. If the use of a system waste product can generate revenue to the system sufficient to cover the cost of converting that waste product to a useable energy source with a reasonable project pay back period then such an activity should become another eligible activity to be funded from the appropriate SRF.

This paper outlines a quick and fairly simple way to use an existing national delivery system and program to provide potentially significant cost savings to local waste water and drinking water systems as well as significant reductions in energy use by a large element of our nations infrastructure. A major part of these activities may well be able to be undertaken within the current statutory powers of the two SRF programs based upon the exercise of the Administrator's discretion over program eligibility and activities. Others would require amendments to either or both the Safe Drinking Water and the Clean Water Acts. As with all the activities under the SRF programs, providing states the greatest latitude possible in structuring state designed ways to meet national goals will provide the greatest opportunity for success.